

What is claimed is:

- 1 1. A method for communications resource allocation for  
2 a wireless communications system having a total system  
3 bandwidth, comprising the steps of:  
4 dividing a service area into a plurality of  
5 sectors;  
6 positioning a first set of base station antennas  
7 within a first set of sectors, said first set of  
8 antennas having main beams set at a first set of angles,  
9 and where each antenna of said first set of antennas  
10 corresponds to a sector within said first set of  
11 sectors;  
12 positioning a second set of base station antennas  
13 within a second set of sectors adjacent to said first  
14 set of sectors, said second set of antennas having main  
15 beams set at a second set of angles, and where each  
16 antenna of said second set of antennas corresponds to a  
17 sector within said second set of sectors; and  
18 assigning each sector in said first and second set  
19 of sectors a portion of the total system bandwidth.
- 1 2. The method of claim 1, wherein said first set of  
2 angles are 30 degrees, 150 degrees and 270 degrees, and  
3 said second set of angles are 90 degrees, 210 degrees  
4 and 330 degrees.
- 1 3. The method of claim 2, wherein beamwidths for said  
2 first and second set of antennas are within a range of  
3 50 degrees to 70 degrees.
- 1 4. The method of claim 1, wherein said each angle of  
2 said second set of angles is 60 degrees apart from each  
3 angle of said first set of angles.

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1 9. The apparatus of claim 8, wherein beamwidths for  
2 said first and second set of antennas are within a range  
3 of 50 degrees to 70 degrees.

1 11. The apparatus of claim 7, wherein said first and  
2 second cell each have three sectors, with each sector  
3 having a base station antenna.

1 13. A method for communicating signals over a wireless  
2 communications system having a service area divided into  
3 a plurality of sectors, comprising the steps of:

4 communicating signals over a first set of base  
5 station antennas within a first set of sectors, said  
6 first set of antennas having main beams set at a first  
7 set of angles, and where each antenna of said first set  
8 of antennas corresponds to a sector within said first  
9 set of sectors; and  
10 communicating signals over a second set of base  
11 station antennas within a second set of sectors adjacent  
12 to said first set of sectors, said second set of  
13 antennas having main beams set at a second set of  
14 angles, and where each antenna of said second set of  
15 antennas corresponds to a sector within said second set  
16 of sectors.

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1 15. An apparatus for a wireless communications system  
2 having a service area divided into a plurality of  
3 sectors, comprising:  
4 a switching network to provide switching for a  
5 plurality of base stations;  
6 a first set of base stations operably coupled to  
7 said switching network for receiving signals over said  
8 network, said first set of base stations having antennas  
9 within a first set of sectors, said antennas having main  
10 beams set at a first set of angles, and where each  
11 antenna corresponds to a sector within said first set of  
12 sectors;  
13 a second set of base stations operably coupled to  
14 said switching network for receiving signals over said  
15 network, said second set of base stations having  
16 antennas within a second set of sectors adjacent to said  
17 first set of sectors, said antennas having main beams  
18 set at a second set of angles, and where each antenna  
19 corresponds to a sector within said second set of  
20 sectors; and  
21 transceivers operably coupled to said antennas for  
22 communicating said signals over said main beams for said  
23 antennas.

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